

Department of Industrial & Systems Engineering

Systems Design Project Determine the Threshold Limit during AMHS Route Down

By: Li Longzhou, Shang Ke, Xiao Hui, Zhan Haixu

Supervisors: A/P Chew Ek Peng, Dr. Hung Hui-Chih



TECH Semiconductor Singapore Pte Ltd

1. Project Description

Wafers are transported by Automatic Materials Handling System (AMHS) which requires route down (maintenance, etc) from time to time. Machines affected cannot get new inputs and will become idle after finishing all the wafers in buffer lots and thus suffer machine utilization loss.



2. Project Objectives

Evaluate the impact of route down. > Determine threshold limit of route down. > Propose an optimal route down schedule.



>Use latest historical data to infer threshold limit.

>Use forecasted incoming WIP to dynamically recommend route down schedule.

4. Route Down Impact Evaluation



Productivity loss of 4hr route down – productivity loss of 2hr+2hr route down



5. Route Down Schedule Analysis



